

ABSTRACT

METHOD AND APPARATUS FOR CLEANING INKJET
CARTRIDGES

5 This invention relates to a method and apparatus for removing surface contamination on a flexible circuit 34 for an inkjet printer cartridge by pulsed laser irradiation in air. The contamination 3 around and inside the tiny inkjet nozzles 4 can be completely removed without any damage on the flexible circuit 34 by the laser irradiation. The cleaning mechanisms are laser-induced ablation of the contamination and fast momentum transferring from the laser beam to the contamination materials. Compared with chemical solution cleaning and plasma etching, this technique has high throughput and does not cause flexible circuit damage, due to the fact that there are no water and chemical solutions involved in the process. Meanwhile, the laser irradiation is only limited in a small area around the tiny inkjet nozzles 4. There is no laser interaction with the thin conductive circuit 34.